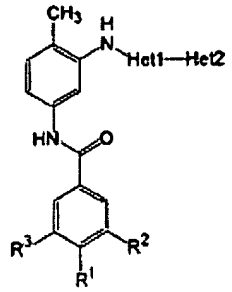
CLAIMS

1. An amide derivative, which is a compound represented by the following general formula [1] in any of the following cases (A), (B) or (C), or a pharmaceutically acceptable salt thereof:

[Chemical 19]



[1]

(A)

R^1 represents any of groups of the following (1) through (3):

(1) $-CH_2-R^{11}$ [R^{11} represents a saturated, nitrogen-containing heterocyclic group. The saturated, nitrogen-containing heterocyclic group is substituted by a group selected from the group consisting of oxo, $-CH_2-R^{111}$ (R^{111} represents a saturated, nitrogen-containing heterocyclic group), a saturated, nitrogen-containing heterocyclic group, aminoalkyl, monoalkylaminoalkyl, dialkylaminoalkyl, alkoxy and (5-methyl-2-oxo-1,3-dioxol-4-yl)methyl, and further, may be substituted by 1 or 2 same or different members selected from the group consisting of alkyl, alkoxycarbonyl, halogen, haloalkyl, hydroxyalkyl, amino, monoalkylamino, dialkylamino, carbamoyl, monoalkylcarbamoyl and dialkylcarbamoyl],

(2) $-O-R^{12}$ [R^{12} represents a saturated, nitrogen-containing heterocyclic group. The saturated, nitrogen-containing heterocyclic group may be substituted by 1 to 3 same or different members selected from the group consisting of oxo, $-CH_2-R^{121}$ (R^{121} represents a saturated,

nitrogen-containing heterocyclic group), a saturated, nitrogen-containing heterocyclic group, aminoalkyl, monoalkylaminoalkyl, dialkylaminoalkyl, alkoxy, (5-methyl-2-oxo-1,3-dioxol-4-yl)methyl, alkyl, alkoxycarbonyl, halogen, haloalkyl, hydroxyalkyl, amino, monoalkylamino, dialkylamino, carbamoyl, monoalkylcarbamoyl and dialkylcarbamoyl], and

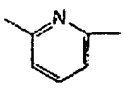
(3) -CH=R^{13} [R^{13} represents a saturated, nitrogen-containing heterocyclic group. The saturated, nitrogen-containing heterocyclic group may be substituted by 1 to 3 same or different members selected from the group consisting of oxo, -CH_2-R^{131} (R^{131} represents a saturated, nitrogen-containing heterocyclic group), a saturated, nitrogen-containing heterocyclic group, aminoalkyl, monoalkylaminoalkyl, dialkylaminoalkyl, alkoxy, (5-methyl-2-oxo-1,3-dioxol-4-yl)methyl, alkyl, alkoxycarbonyl, halogen, haloalkyl, hydroxyalkyl, amino, monoalkylamino, dialkylamino, carbamoyl, monoalkylcarbamoyl and dialkylcarbamoyl];

R^2 represents alkyl, halogen, haloalkyl, hydroxyalkyl, alkoxy, alkoxyalkyl, alkoxycarbonyl, acyl, amino, monoalkylamino, dialkylamino, nitro, carbamoyl, monoalkylcarbamoyl, dialkylcarbamoyl or cyano;

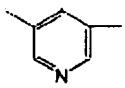
R^3 represents hydrogen, halogen or alkoxy;

Het1 represents any of groups of the following chemical formulas [2] to [8]:

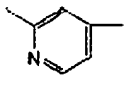
[Chemical 20]



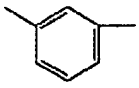
[2]



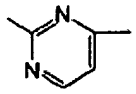
[3]



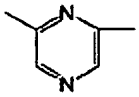
[4]



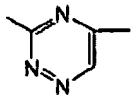
[5]



[6]



[7]



[8]

Het2 represents pyridyl, pyrimidinyl, pyrazinyl, pyridazinyl or 1,2-dihydropyridazinyl (the Het2 may be substituted by 1 to 3 same or different members selected from the group consisting of alkyl, halogen and amino);

wherein exception is made for a compound wherein R^{11} is pyrrolidinyl, piperidinyl, piperazinyl or morpholinyl (each of the pyrrolidinyl, piperidinyl, piperazinyl and morpholinyl is substituted by a group selected from the group consisting of oxo, $-CH_2-R^{111}$ (R^{111} represents a saturated, nitrogen-containing heterocyclic group), a saturated, nitrogen-containing heterocyclic group, aminoalkyl, monoalkylaminoalkyl, dialkylaminoalkyl, alkoxy and (5-methyl-2-oxo-1,3-dioxol-4-yl)methyl, and further, may be substituted by 1 or 2 same or different members selected from the group consisting of alkyl, alkoxycarbonyl, halogen, haloalkyl, hydroxyalkyl, amino, monoalkylamino, dialkylamino, carbamoyl, monoalkylcarbamoyl and dialkylcarbamoyl); Het1 is a group of the formula [6]; and Het2 is pyrazinyl or pyridyl which may be substituted by alkyl;

(B)

R^1 represents $-CH_2-R^{14}$ (R^{14} represents a saturated, nitrogen-containing heterocyclic group. The saturated, nitrogen-containing heterocyclic group may be substituted by 1 to 3 same or different members selected from the group consisting of alkyl, alkoxycarbonyl, halogen,

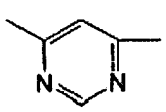
haloalkyl, hydroxyalkyl, amino, monoalkylamino, dialkylamino, carbamoyl, monoalkylcarbamoyl and dialkylcarbamoyl);

R^2 represents alkyl, halogen, haloalkyl, hydroxyalkyl, alkoxy, alkoxyalkyl, alkoxycarbonyl, acyl, amino, monoalkylamino, dialkylamino, nitro, carbamoyl, monoalkylcarbamoyl, dialkylcarbamoyl or cyano;

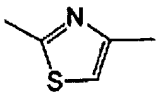
R^3 represents hydrogen, halogen or alkoxy;

Het1 represents any of groups of the following chemical formulas [9] and [10]:

[Chemical 21]



[9]



[10]

Het2 represents pyridyl, pyrimidinyl, pyrazinyl, pyridazi98 nyl or 1,2-dihydropyridazinyl (the Het2 may be substituted by 1 to 3 same or different members selected from the group consisting of alkyl, halogen and amino);

(C)

R^1 represents any of groups of the following (1) through (3):

(1) $-CH_2-R^{11}$ [R^{11} represents a saturated, nitrogen-containing heterocyclic group. The saturated, nitrogen-containing heterocyclic group is substituted by a group selected from the group consisting of oxo, $-CH_2-R^{111}$ (R^{111} represents a saturated, nitrogen-containing heterocyclic group), a saturated, nitrogen-containing heterocyclic group, aminoalkyl, monoalkylaminoalkyl, dialkylaminoalkyl, alkoxy and (5-methyl-2-oxo-1,3-dioxol-4-yl)methyl, and further, may be substituted by 1 or 2 same or different members selected from the group consisting of alkyl, alkoxycarbonyl, halogen, haloalkyl, hydroxyalkyl, amino, monoalkylamino, dialkylamino, carbamoyl, monoalkylcarbamoyl and dialkylcarbamoyl],

(2) $-O-R^{12}$ [R^{12} represents a saturated, nitrogen-containing heterocyclic group. The saturated, nitrogen-containing heterocyclic group may be substituted by 1 to 3 same or different members selected from the group consisting of oxo, $-CH_2-R^{121}$ (R^{121} represents a saturated, nitrogen-containing heterocyclic group), a saturated, nitrogen-containing heterocyclic group, aminoalkyl, monoalkylaminoalkyl, dialkylaminoalkyl, alkoxy, (5-methyl-2-oxo-1,3-dioxol-4-yl)methyl, alkyl, alkoxycarbonyl, halogen, haloalkyl, hydroxyalkyl, amino, monoalkylamino, dialkylamino, carbamoyl, monoalkylcarbamoyl and dialkylcarbamoyl], and

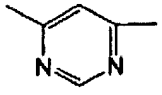
(3) $-CH=R^{13}$ [R^{13} represents a saturated, nitrogen-containing heterocyclic group. The saturated, nitrogen-containing heterocyclic group may be substituted by 1 to 3 same or different members selected from the group consisting of oxo, $-CH_2-R^{131}$ (R^{131} represents a saturated, nitrogen-containing heterocyclic group), a saturated, nitrogen-containing heterocyclic group, aminoalkyl, monoalkylaminoalkyl, dialkylaminoalkyl, alkoxy, (5-methyl-2-oxo-1,3-dioxol-4-yl)methyl, alkyl, alkoxycarbonyl, halogen, haloalkyl, hydroxyalkyl, amino, monoalkylamino, dialkylamino, carbamoyl, monoalkylcarbamoyl and dialkylcarbamoyl];

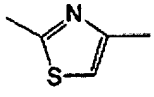
R^2 represents alkyl, halogen, haloalkyl, hydroxyalkyl, alkoxy, alkoxyalkyl, alkoxycarbonyl, acyl, amino, monoalkylamino, dialkylamino, nitro, carbamoyl, monoalkylcarbamoyl, dialkylcarbamoyl or cyano;

R^3 represents hydrogen, halogen or alkoxy;

Het1 represents any of groups of the following chemical formulas [9] and [10]:

[Chemical 22]





Het2 represents pyridyl, pyrimidinyl, pyrazinyl, pyridazinyl or 1,2-dihydropyridazinyl (the Het2 may be substituted by 1 to 3 same or different members selected from the group consisting of alkyl, halogen and amino).

2. The amide derivative according to claim 1, which is a compound selected from the group consisting of the following compounds (1) to (14), or a pharmaceutically acceptable salt thereof:

(1) 4-(1-methylpiperidin-4-ylidenemethyl)-3-trifluoromethyl-N-{4-methyl-3-[4-(5-pyrimidinyl)pyrimidin-2-ylamino]phenyl}benzamide,

(2) 4-(1-methylpiperidin-4-yloxy)-3-trifluoromethyl-N-{4-methyl-3-[4-(5-pyrimidinyl)pyrimidin-2-ylamino]phenyl}benzamide,

(3) 4-(1-methylpiperazin-4-ylmethyl)-3-trifluoromethyl-N-{4-methyl-3-[6-(3-pyridyl)pyrimidin-4-ylamino]phenyl}benzamide,

(4) 4-(1-methylpiperazin-4-ylmethyl)-3-trifluoromethyl-N-{4-methyl-3-[6-(5-pyrimidinyl)pyrimidin-4-ylamino]phenyl}benzamide,

(5) (-)-4-((S)-3-maino-2-oxopyrrolidin-1-ylmethyl)-3-trifluoromethyl-N-{4-methyl-3-[4-(5-pyrimidinyl)pyrimidin-2-ylamino]phenyl}benzamide,

(6) 4-[(S)-2-(1-pyrrolidinylmethyl)pyrrolidin-1-ylmethyl]-3-trifluoromethyl-N-{4-methyl-3-[4-(5-pyrimidinyl)pyrimidin-2-ylamino]phenyl}benzamide,

(7) 4-[3-(dimethylaminomethyl)azetidin-1-ylmethyl]-3-trifluoromethyl-N-{4-methyl-3-[4-(5-pyrimidinyl)pyrimidin-2-ylamino]phenyl}benzamide,

(8) 4-[(S)-3-(1-pyrrolidinyl)pyrrolidin-1-ylmethyl]-3-trifluoromethyl-N-{4-methyl-3-[4-(5-pyrimidinyl)pyrimidin-2-ylamino]phenyl}benzamide,

(9) 4-{4-[(5-methyl-2-oxo-1,3-dioxol-4-yl)methyl]piperazin-1-ylmethyl}-3-trifluoromethyl-N-{4-methyl-3-[4-(5-pyrimidinyl)pyrimidin-2-ylamino]phenyl}benzamide,

(10) 4-(4-methylpiperazin-1-ylmethyl)-3-trifluoromethyl-N-{4-methyl-3-[4-(4-pyridyl)thiazol-2-ylamino]phenyl}benzamide,

(11) 4-[3-(dimethylamino)azetidin-1-ylmethyl]-3-trifluoromethyl-N-{4-methyl-3-[4-(5-pyrimidinyl)pyrimidin-2-ylamino]phenyl}benzamide,

(12) 4-[(R)-3-(dimethylaminomethyl)pyrrolidin-1-ylmethyl]-3-trifluoromethyl-N-{4-methyl-3-[4-(5-pyrimidinyl)pyrimidin-2-ylamino]phenyl}benzamide,

(13) 4-[(S)-3-(dimethylaminomethyl)pyrrolidin-1-ylmethyl]-3-trifluoromethyl-N-{4-methyl-3-[4-(5-pyrimidinyl)pyrimidin-2-ylamino]phenyl}benzamide, and

(14) 4-[(3R,4R)-3-(dimethylamino)-4-methoxypyrrolidin-1-ylmethyl]-3-trifluoromethyl-N-{4-methyl-3-[4-(5-pyrimidinyl)pyrimidin-2-ylamino]phenyl}benzamide.

3. The amide derivative according to claim 1, which is a compound selected from the group consisting of the following compounds (1) to (37), or a pharmaceutically acceptable salt:

(1) 3-difluoromethyl-4-(4-methylpiperazin-1-ylmethyl)-N-{4-methyl-3-[4-(5-pyrimidinyl)pyrimidin-2-ylamino]phenyl}benzamide,

(2) 3-ethyl-4-(4-methylpiperazin-1-ylmethyl)-N-{4-methyl-3-[4-(5-pyrimidinyl)pyrimidin-2-ylamino]phenyl}benzamide,

(3) 4-(1-methylpiperidin-4-ylmethyl)-3-trifluoromethyl-N-{4-methyl-3-[4-(5-pyrimidinyl)pyrimidin-2-ylamino]phenyl}benzamide,

(4) 3,5-dichloro-4-[(S)-3-(dimethylamino)pyrrolidin-1-ylmethyl]-N-{4-methyl-3-[4-(5-pyrimidinyl)pyrimidin-2-ylamino]phenyl}benzamide,

(5) 3-methoxy-4-(4-methylpiperazin-1-ylmethyl)-N-{3-[4-(5-bromopyridin-3-yl)pyrimidin-2-ylamino]-4-methylphenyl}benzamide,

(6) 4-(4-ethylpiperazin-1-ylmethyl)-3-trifluoromethyl-N-{4-methyl-3-[4-(5-pyrimidinyl)pyrimidin-2-ylamino]phenyl}benzamide,

(7) 4-(4-ethylpiperazin-1-ylmethyl)-3-trifluoromethyl-N-{3-[4-(5-bromopyridin-3-yl)pyrimidin-2-ylamino]-4-methylphenyl}benzamide,

(8) 3-chloro-4-(4-methylpiperazin-1-ylmethyl)-N-{4-methyl-3-[4-(5-pyrimidinyl)pyrimidin-2-ylamino]phenyl}benzamide,

(9) 3-fluoromethyl-4-(1-methylpiperidin-4-ylmethyl)-N-{4-methyl-3-[4-(5-pyrimidinyl)pyrimidin-2-ylamino]phenyl}benzamide,

(10) 4-(4-methylpiperazin-1-ylmethyl)-3-trifluoromethyl-N-{4-methyl-3-[4-(5-pyrimidinyl)pyridin-2-ylamino]phenyl}benzamide,

(11) 4-(4-ethylpiperazin-1-ylmethyl)-3-trifluoromethyl-N-{4-methyl-3-[4-(5-pyrimidinyl)pyridin-2-ylamino]phenyl}benzamide,

(12) 4-(4-ethylpiperazin-1-ylmethyl)-3-trifluoromethyl-N-{4-methyl-3-[4-(3-pyridyl)pyridin-2-ylamino]phenyl}benzamide,

(13) 4-(4-methylpiperazin-1-ylmethyl)-3-trifluoromethyl-N-{4-methyl-3-[4-(3-pyridyl)pyridin-2-ylamino]phenyl}benzamide,

(14) 4-[4-(2-fluoroethyl)piperazin-1-ylmethyl]-3-trifluoromethyl-N-{4-methyl-3-[4-(5-pyrimidinyl)pyrimidin-2-ylamino]phenyl}benzamide,

(15) 4-[4-(2-hydroxyethyl)piperazin-1-ylmethyl)-3-trifluoromethyl-N-{4-methyl-3-[4-(5-pyrimidinyl)pyrimidin-2-ylamino]phenyl}benzamide,

(16) 4-[(R)-3-(dimethylamino)pyrrolidin-1-ylmethyl]-3-trifluoromethyl-N-{4-methyl-3-[4-(5-pyrimidinyl)pyrimidin-2-ylamino]phenyl}benzamide,

(17) 4-(1-piperazinylmethyl)-3-trifluoromethyl-N-{3-[4-(5-bromopyridin-3-yl)pyrimidin-2-ylamino]-4-methylphenyl}benzamide,

(18) 4-(1-piperazinylmethyl)-3-trifluoromethyl-N-{4-methyl-3-[4-(3-pyridyl)pyridin-2-ylamino]phenyl}benzamide,

(19) 4-(1-piperazinylmethyl)-3-trifluoromethyl-N-{4-methyl-3-[4-(5-pyrimidinyl)pyrimidin-2-ylamino]phenyl}benzamide,

(20) 4-(3-carbamoylpiperazin-1-ylmethyl)-3-trifluoromethyl-N-{4-methyl-3-[4-(5-pyrimidinyl)pyrimidin-2-ylamino]phenyl}benzamide,

(21) 4-[(S)-3-(dimethylamino)pyrrolidin-1-ylmethyl]-3-trifluoromethyl-N-{4-methyl-3-[4-(5-pyrimidinyl)pyrimidin-2-ylamino]phenyl}benzamide,

(22) 4-(3-carbamoyl-4-methylpiperazin-1-ylmethyl)-3-trifluoromethyl-N-{4-methyl-3-[4-(5-pyrimidinyl)pyrimidin-2-ylamino]phenyl}benzamide,

(23) 4-((S)-3-methylpiperazin-1-ylmethyl)-3-trifluoromethyl-N-{4-methyl-3-[4-(5-pyrimidinyl)pyrimidin-2-ylamino]phenyl}benzamide,

(24) 4-((R)-3-methylpiperazin-1-ylmethyl)-3-trifluoromethyl-N-{4-methyl-3-[4-(5-pyrimidinyl)pyrimidin-2-ylamino]phenyl}benzamide,

(25) 4-[(S)-3-(N,N-diethylamino)pyrrolidin-1-ylmethyl]-3-trifluoromethyl-N-{4-methyl-3-[4-(5-pyrimidinyl)pyrimidin-2-ylamino]phenyl}benzamide,

(26) 4-[(2R,4S)-4-(dimethylamino)-2-methylpyrrolidin-1-ylmethyl]-3-trifluoromethyl-N-{4-methyl-3-[4-(5-pyrimidinyl)pyrimidin-2-ylamino]phenyl}benzamide,

(27) 4-((S)-3-aminopiperidinomethyl)-3-trifluoromethyl-N-{4-methyl-3-[4-(5-pyrimidinyl)pyrimidin-2-ylamino]phenyl}benzamide,

(28) 4-[(S)-3-(dimethylamino)piperidinomethyl]-3-trifluoromethyl-N-{4-methyl-3-[4-(5-pyrimidinyl)pyrimidin-2-ylamino]phenyl}benzamide,

(29) 4-((3S,4R)-3-amino-4-methylpyrrolidin-1-ylmethyl)-3-trifluoromethyl-N-{4-methyl-3-[4-(5-pyrimidinyl)pyrimidin-2-ylamino]phenyl}benzamide,

(30) 4-[(3S,4R)-3-(dimethylamino)-4-methylpyrrolidin-1-ylmethyl]-3-trifluoromethyl-N-{4-methyl-3-[4-(5-pyrimidinyl)pyrimidin-2-ylamino]phenyl}benzamide,

(31) 4-[(S)-3-(methylamino)pyrrolidin-1-ylmethyl]-3-trifluoromethyl-N-{4-methyl-3-[4-(5-pyrimidinyl)pyrimidin-2-ylamino]phenyl}benzamide,

(32) 4-((S)-3,4-dimethylpiperazin-1-ylmethyl)-3-trifluoromethyl-N-{4-methyl-3-[4-(5-pyrimidinyl)pyrimidin-2-ylamino]phenyl}benzamide,

(33) 4-((R)-3,4-dimethylpiperazin-1-ylmethyl)-3-trifluoromethyl-N-{4-methyl-3-[4-(5-pyrimidinyl)pyrimidin-2-ylamino]phenyl}benzamide,

(34) 4-[(3R,4R)-3-(dimethylamino)-4-methoxypyrrolidin-1-ylmethyl]-3-trifluoromethyl-N-{4-methyl-3-[4-(5-pyrimidinyl)pyrimidin-2-ylamino]phenyl}benzamide,

(35) 4-(1-methylpiperidin-4-yloxy)-3-trifluoromethyl-N-{4-methyl-3-[4-(3-pyridyl)pyrimidin-2-ylamino]phenyl}benzamide,

(36) 4-(1-methylpiperidin-4-ylidenemethyl)-3-trifluoromethyl-N-{4-methyl-3-[4-(3-pyridyl)pyrimidin-2-ylamino]phenyl}benzamide, and

(37) 4-[(R)-3-(dimethylaminomethyl)pyrrolidin-1-ylmethyl]-3-trifluoromethyl-N-{4-methyl-3-[4-(3-pyridyl)pyrimidin-2-ylamino]phenyl}benzamide.

4. A pharmaceutical composition comprising the amide derivative of any one of claims 1 to 3 or a pharmaceutically acceptable salt thereof as an active ingredient.

5. A BCR-ABL tyrosine kinase inhibitor comprising the amide derivative of any one of claims 1 to 3 or a pharmaceutically acceptable salt thereof as an active ingredient.

6. A therapeutic agent for chronic myelogenous leukemia comprising the amide derivative of any one of claims 1 to 3 or a pharmaceutically acceptable salt thereof as an active ingredient.

7. A therapeutic agent for acute lymphoblastic leukemia comprising the amide derivative of any one of claims 1 to 3 or a pharmaceutically acceptable salt thereof as an active ingredient.

8. A therapeutic agent for acute myelogenous leukemia comprising the amide derivative of any one of claims 1 to 3 or a salt thereof as an active ingredient.